

FIG. 1

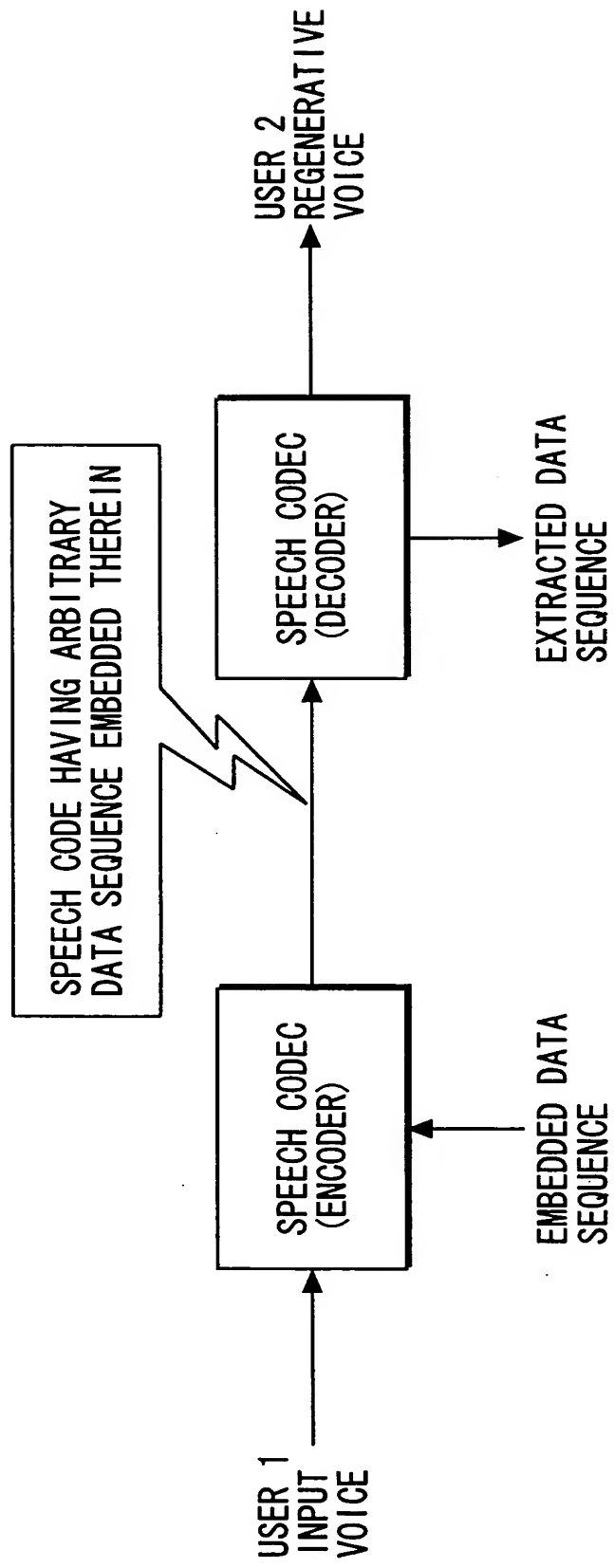


FIG. 2

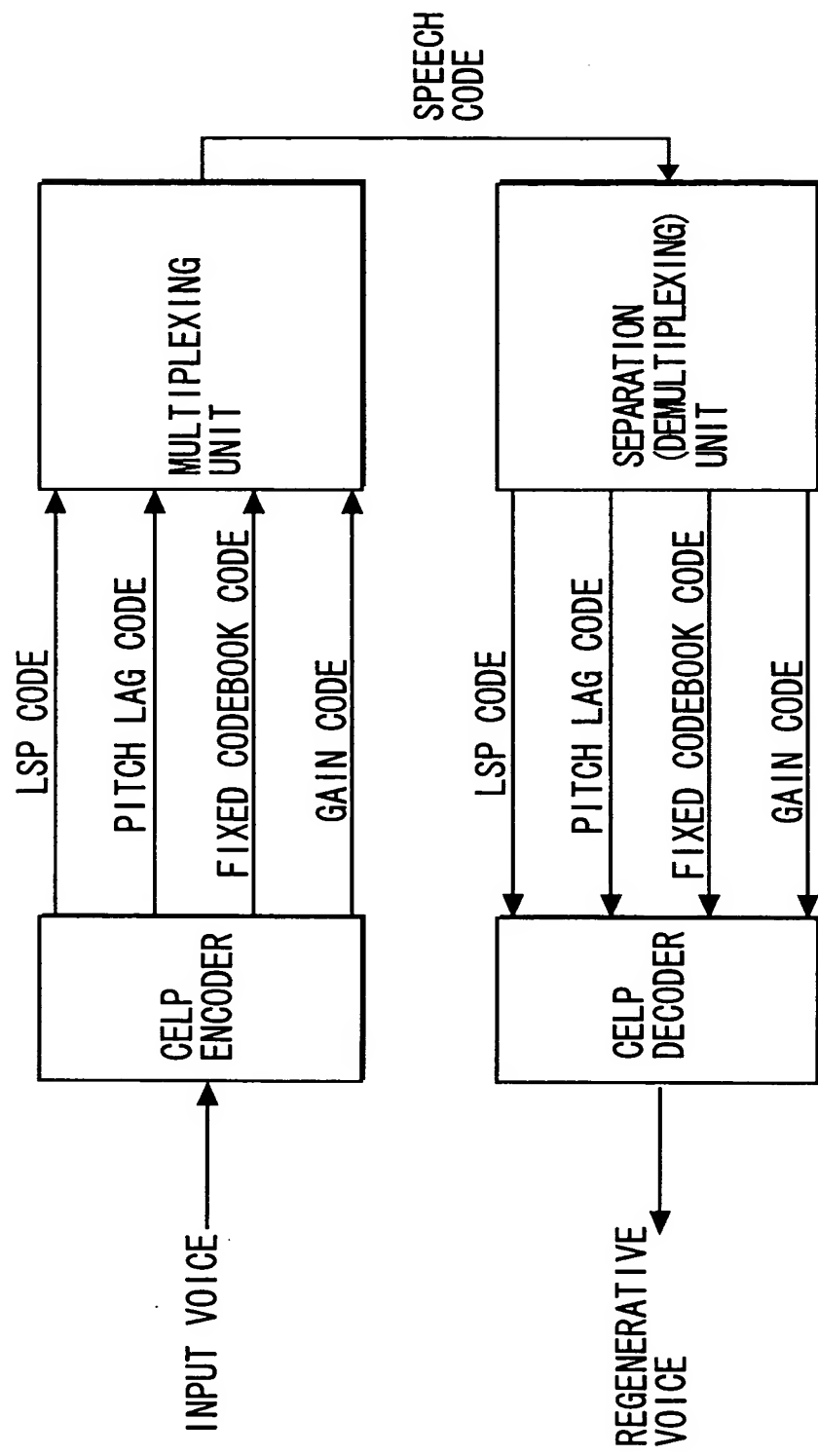


FIG. 3

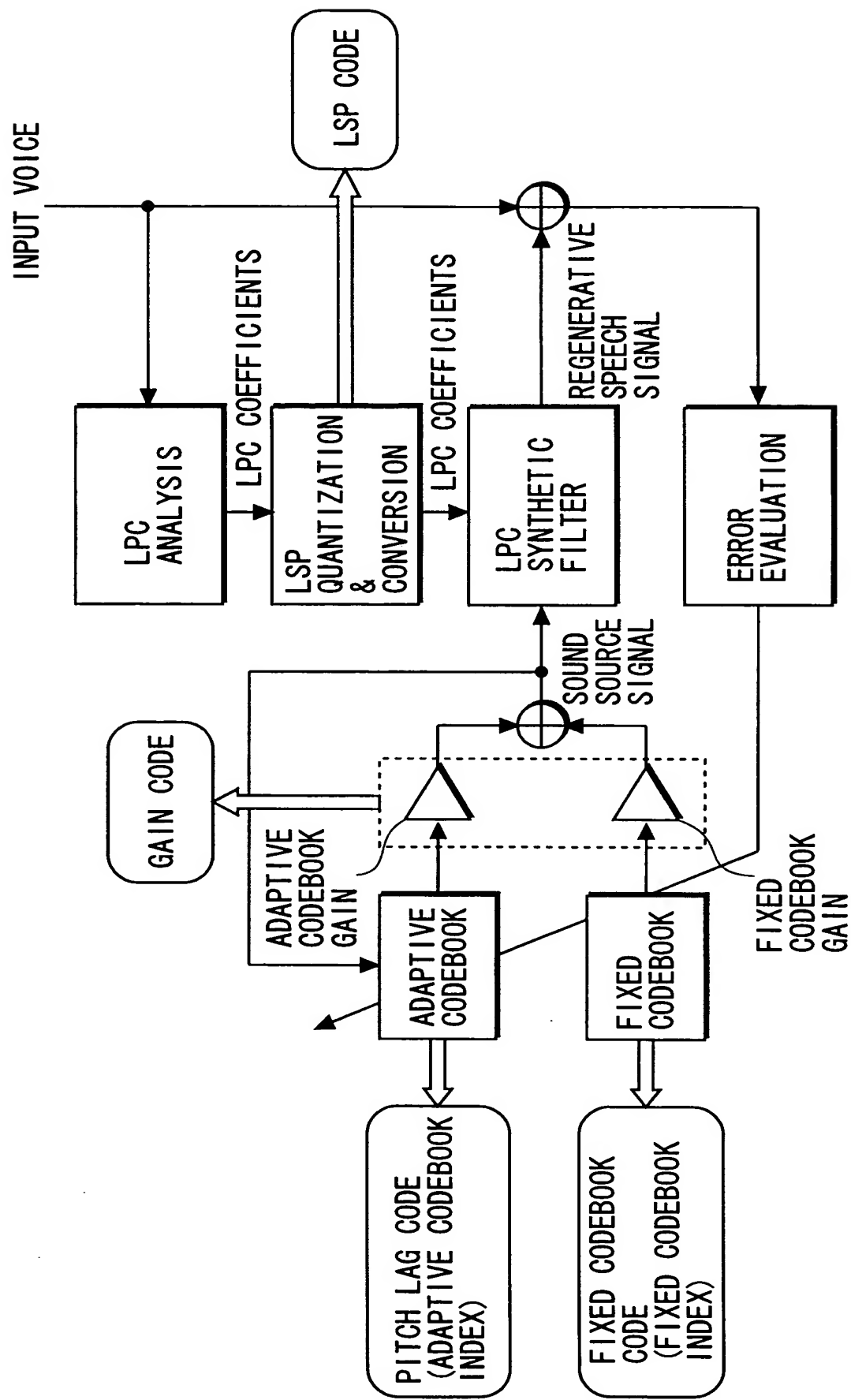


FIG. 4

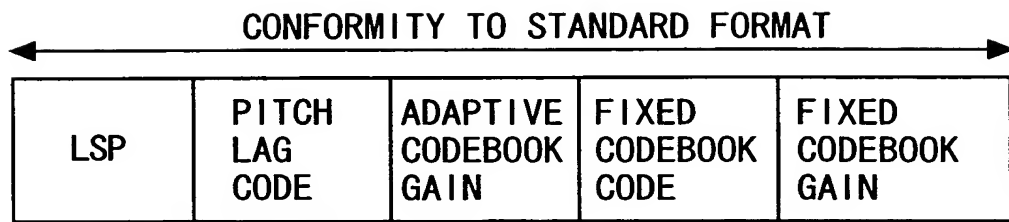


FIG. 5

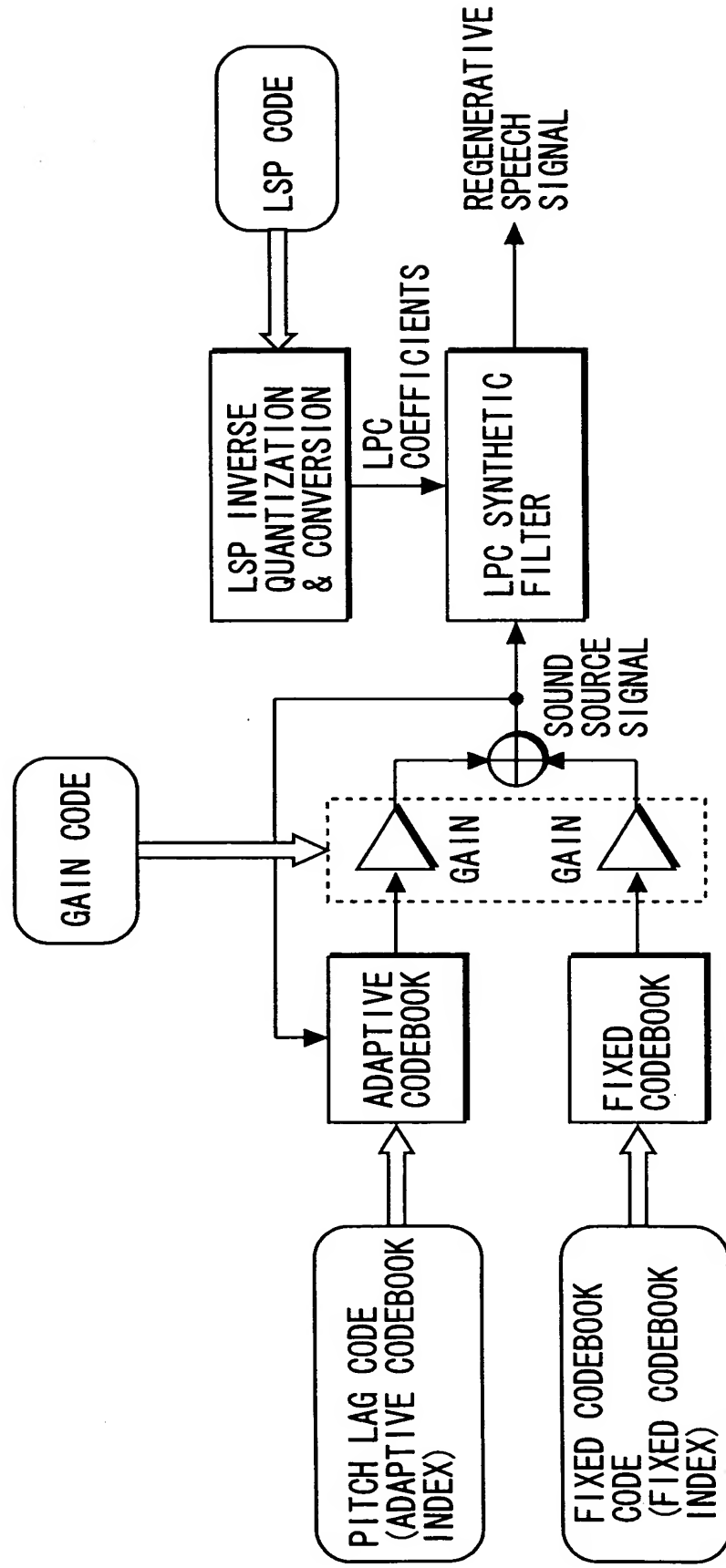


FIG. 6

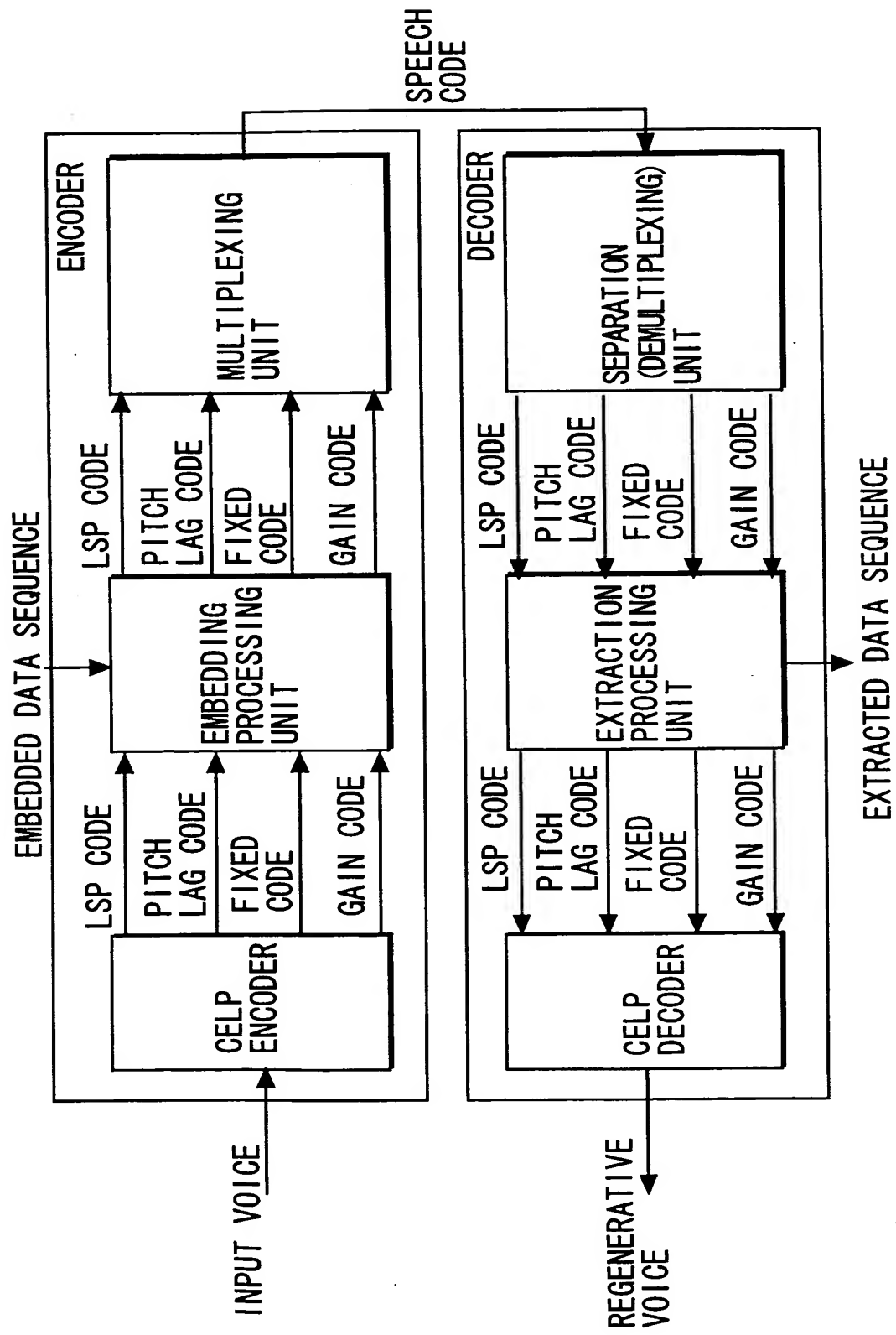


FIG. 7A

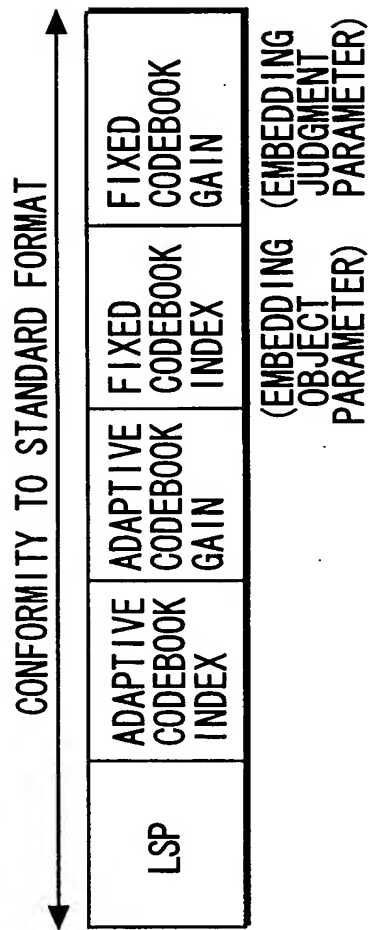


FIG. 7B

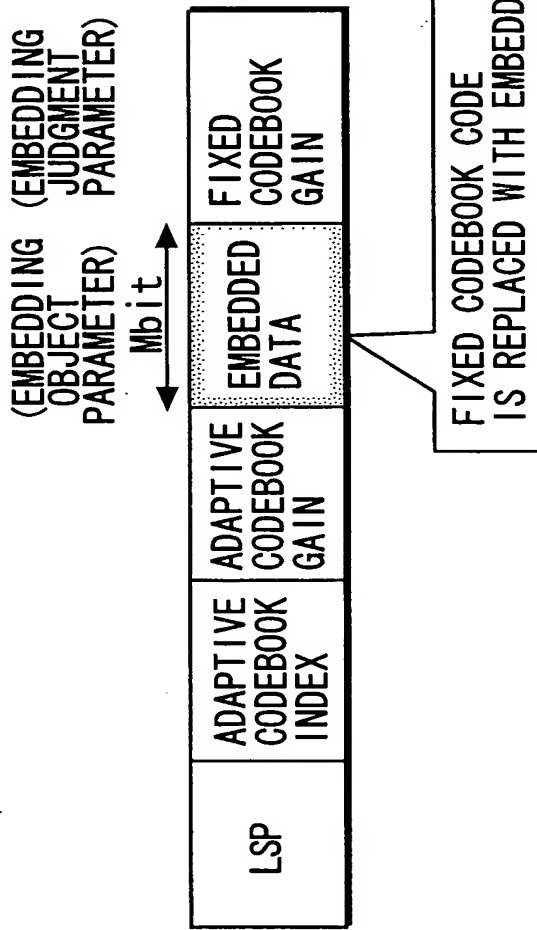


FIG. 8A

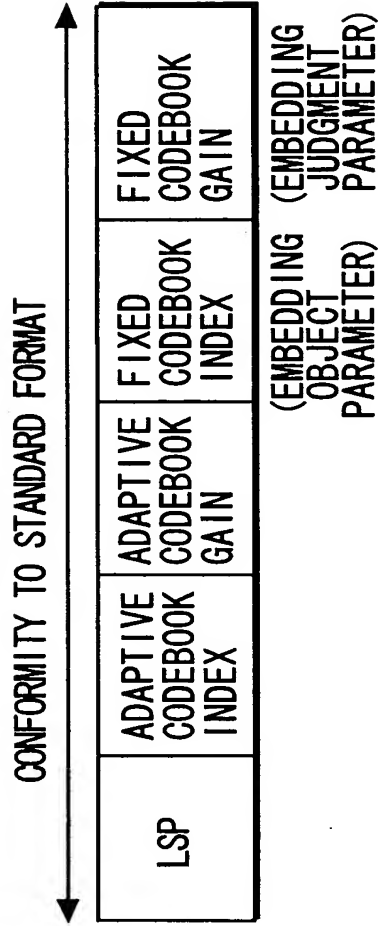


FIG. 8B

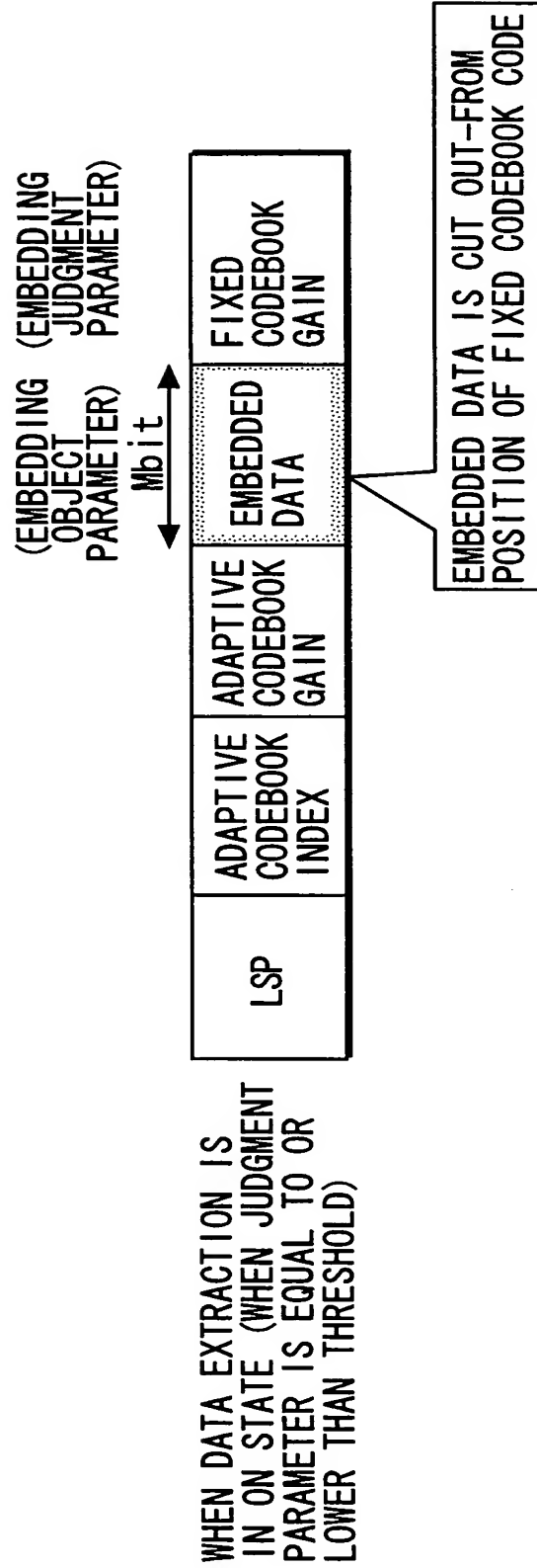


FIG. 9

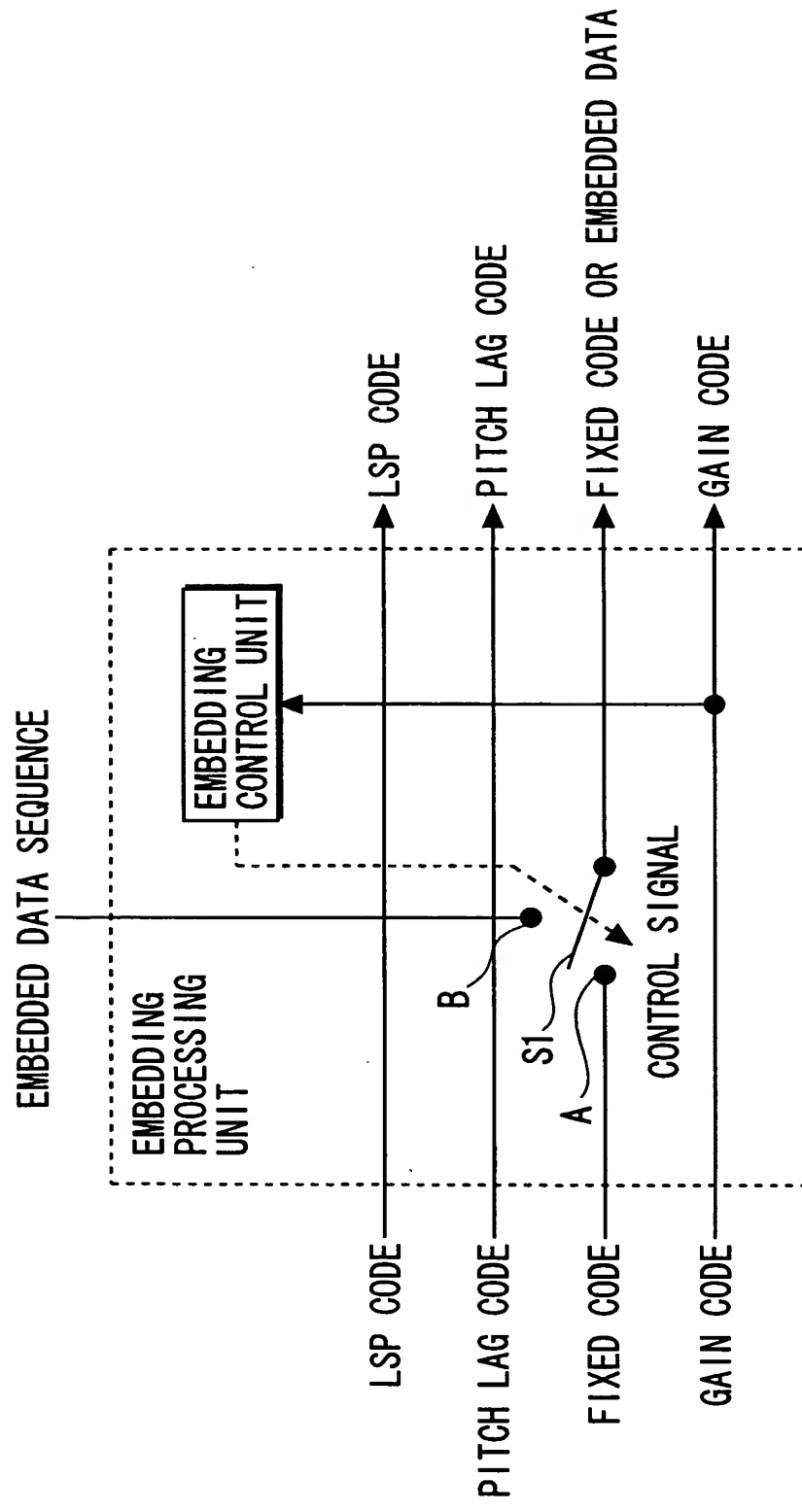


FIG. 10

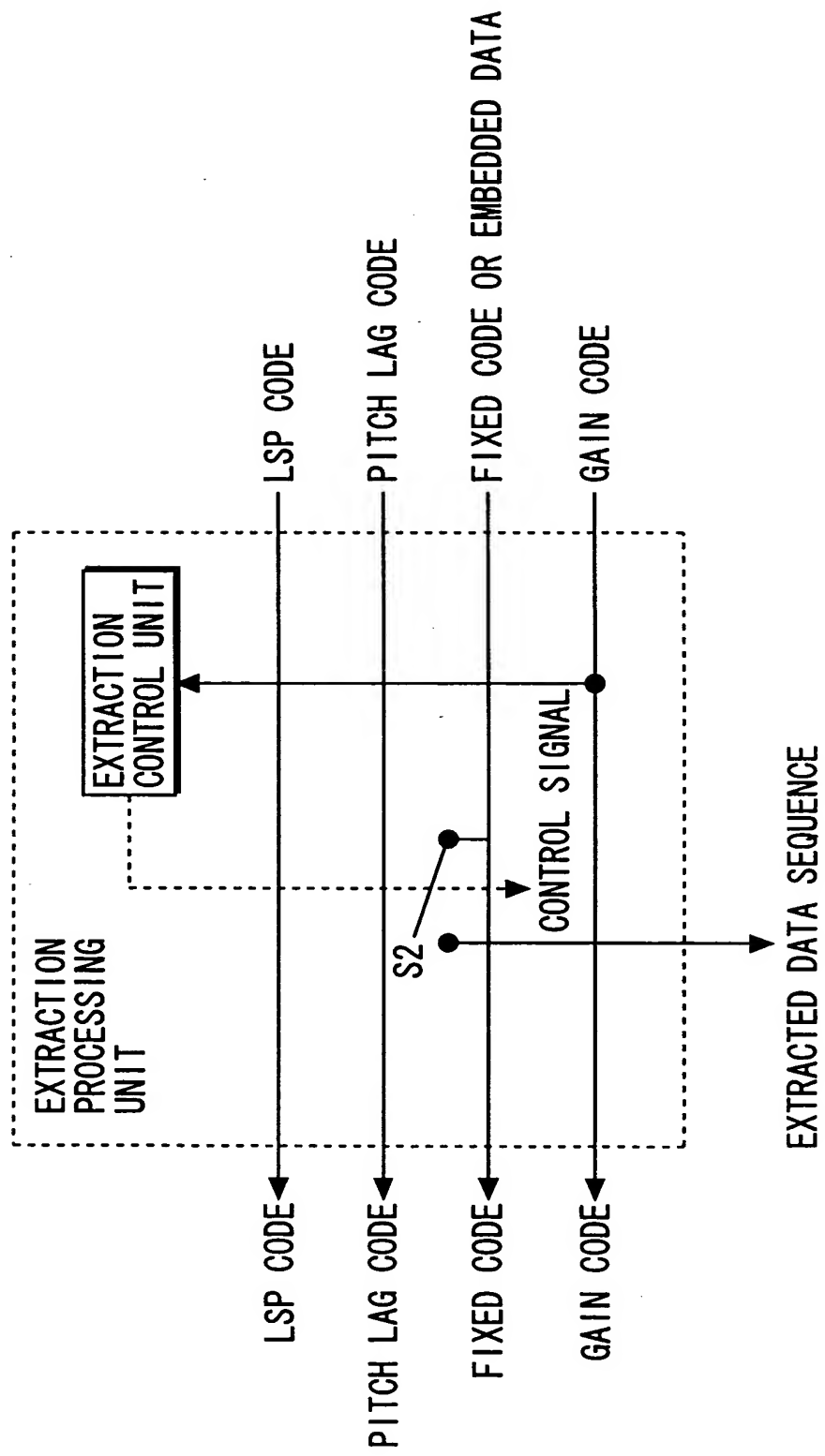
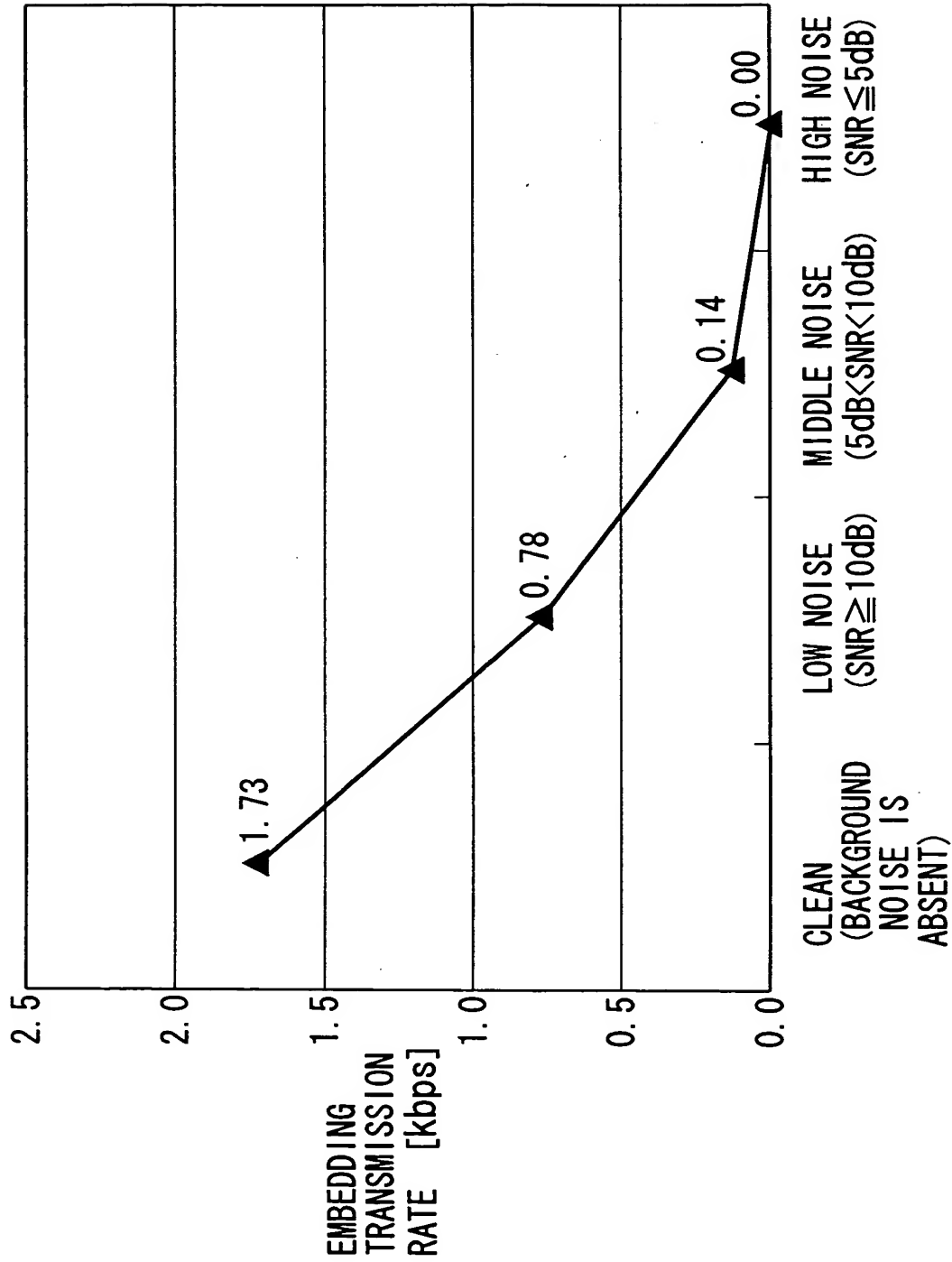


FIG. 11



VARIOUS LEVELS OF BACKGROUND NOISE

FIG. 12

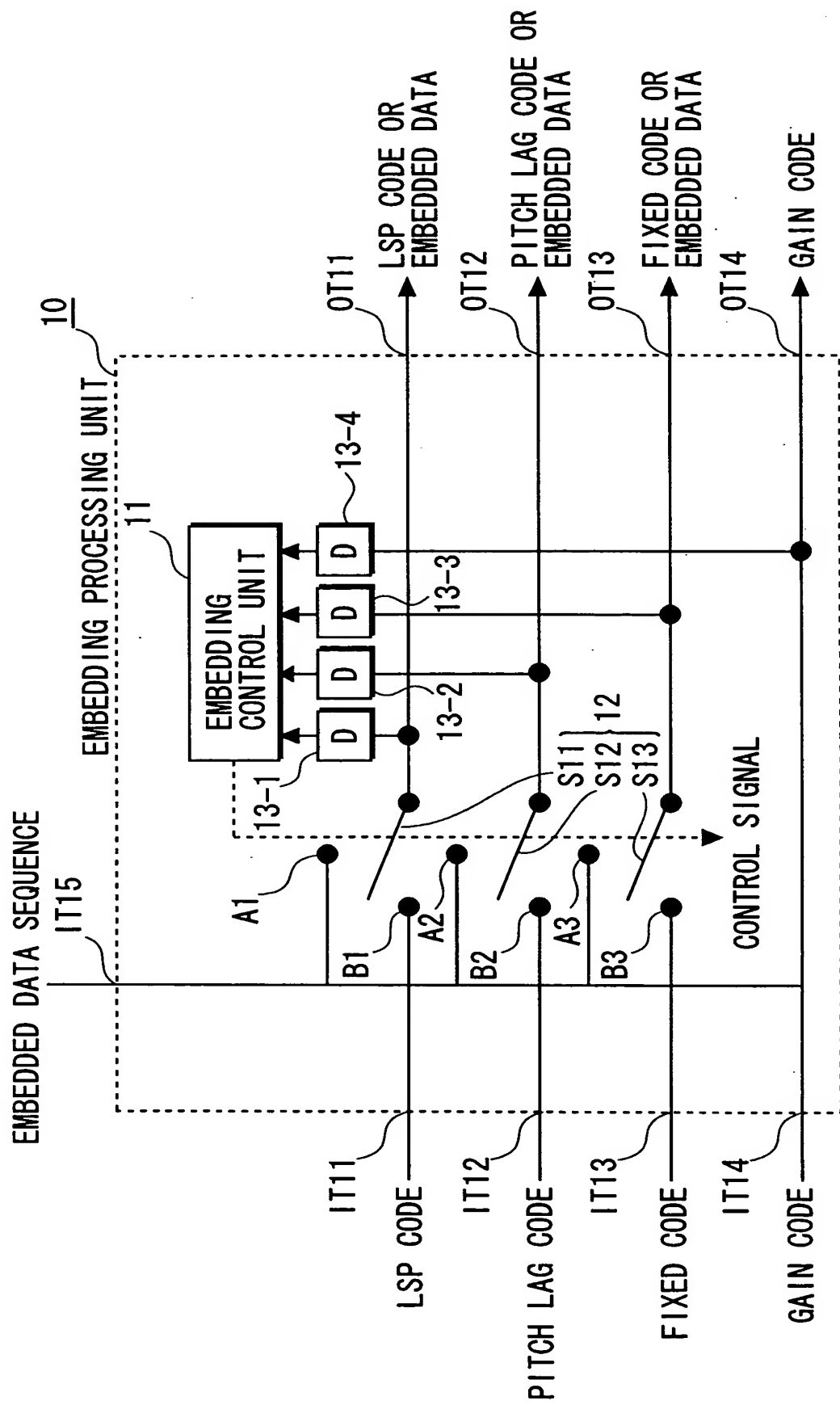


FIG. 13

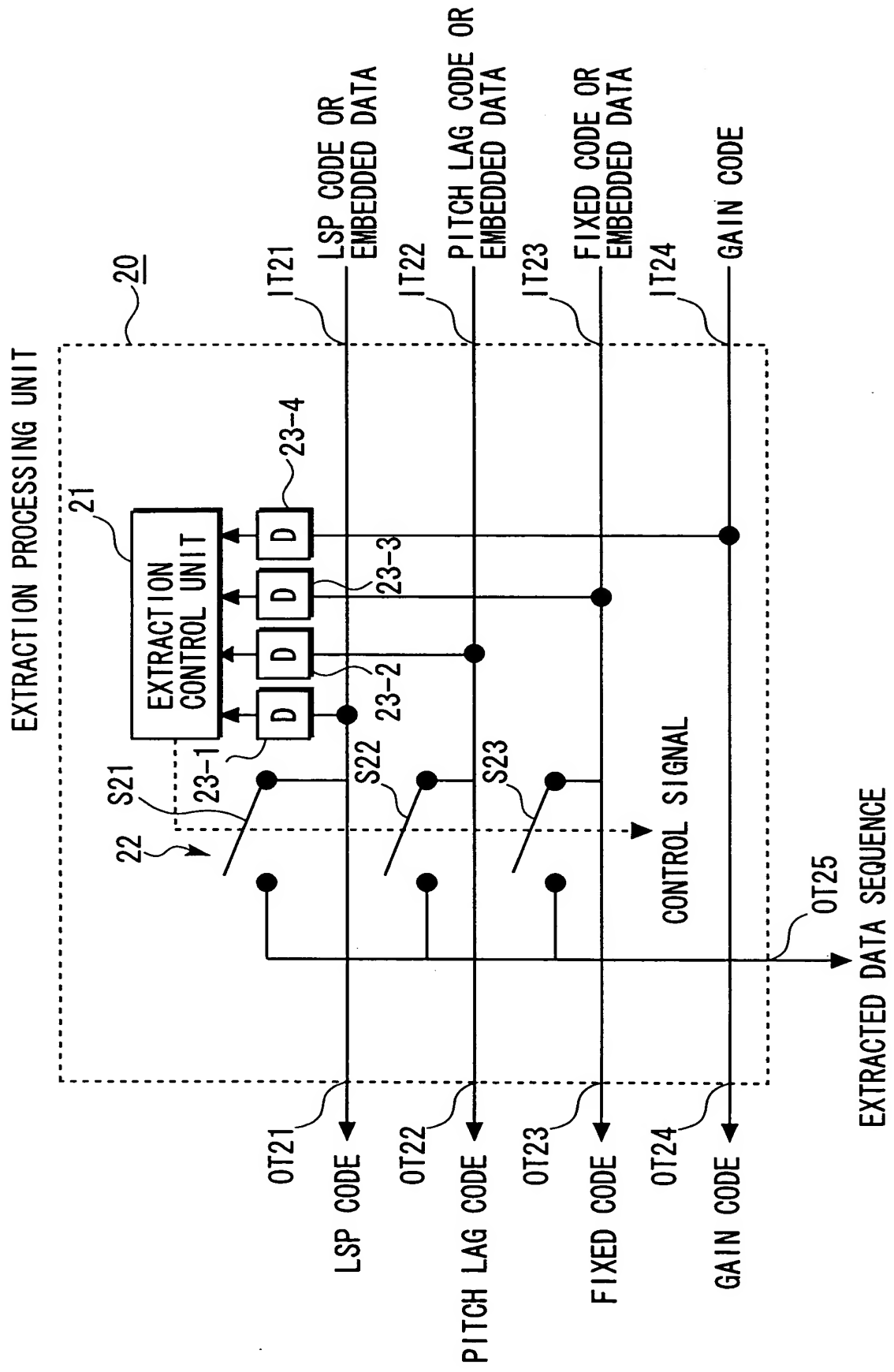


FIG. 14

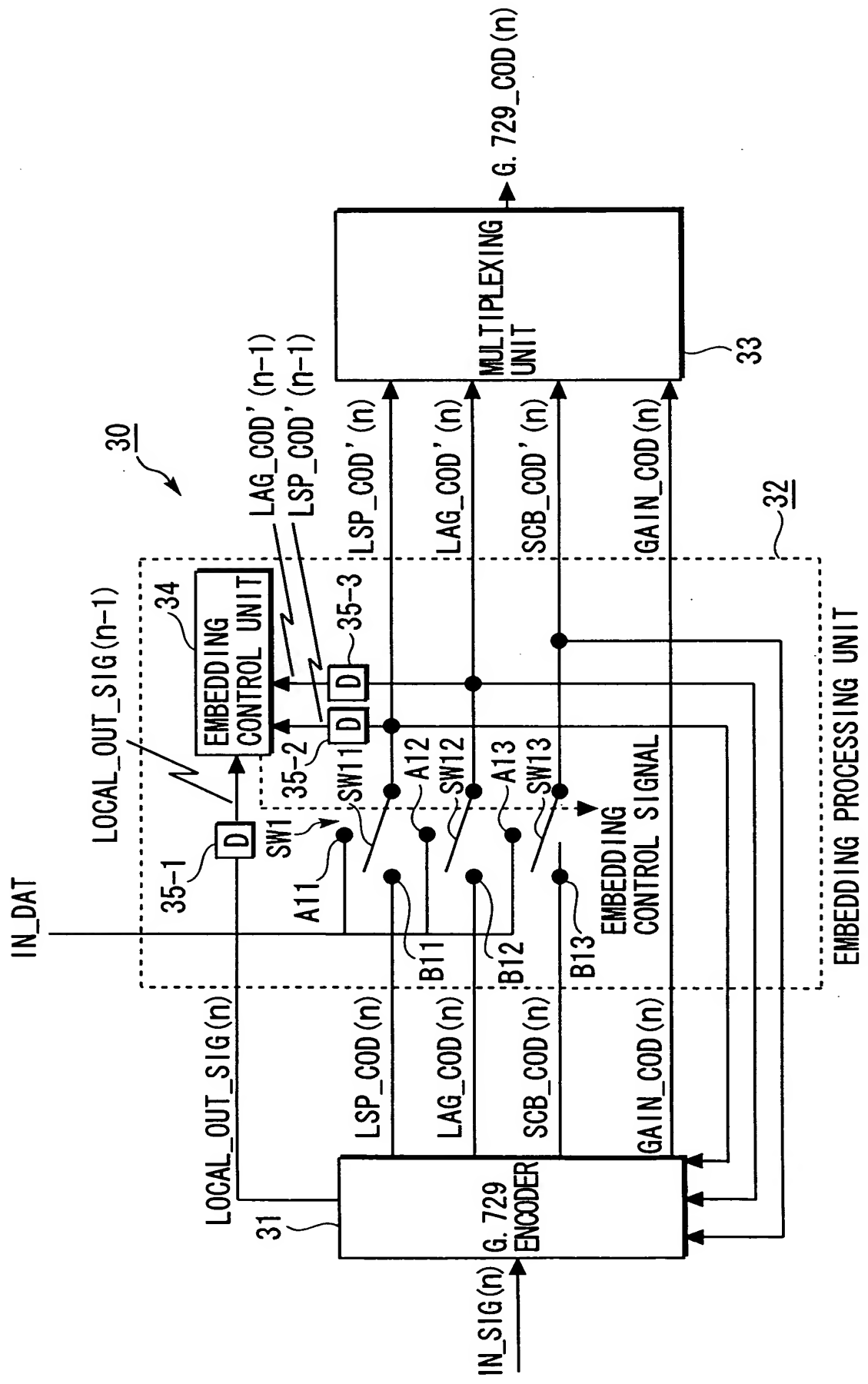


FIG. 15A

TABLE 1: ITEMS OF G. 729 SPEECH ENCODING METHOD

TRANSMISSION RATE	8kbit/sec
SAMPLING FREQUENCY	8kHz
FRAME LENGTH	10ms (80 SAMPLES)
SUB-FRAME LENGTH	5ms (40 SAMPLES)

FIG. 15B

TABLE 2: TRANSMISSION PARAMETERS OF G. 729
SPEECH ENCODING METHOD AND BIT ASSIGNMENT

TRANSMISSION PARAMETER	BIT ASSIGNMENT [BIT]
LSP CODE	18
PITCH LAG CODE	13 (8/5)
ALGEBRAIC CODE	34 (17/17)
GAIN CODE	14 (7+7)
PITCH PARITY	1
TOTAL	80 [80BIT/FRAME]

NOTE: () CONTENTS IN PARENTHESES REPRESENT BIT
ASSIGNMENT FOR EACH SUB-FRAME

FIG. 16

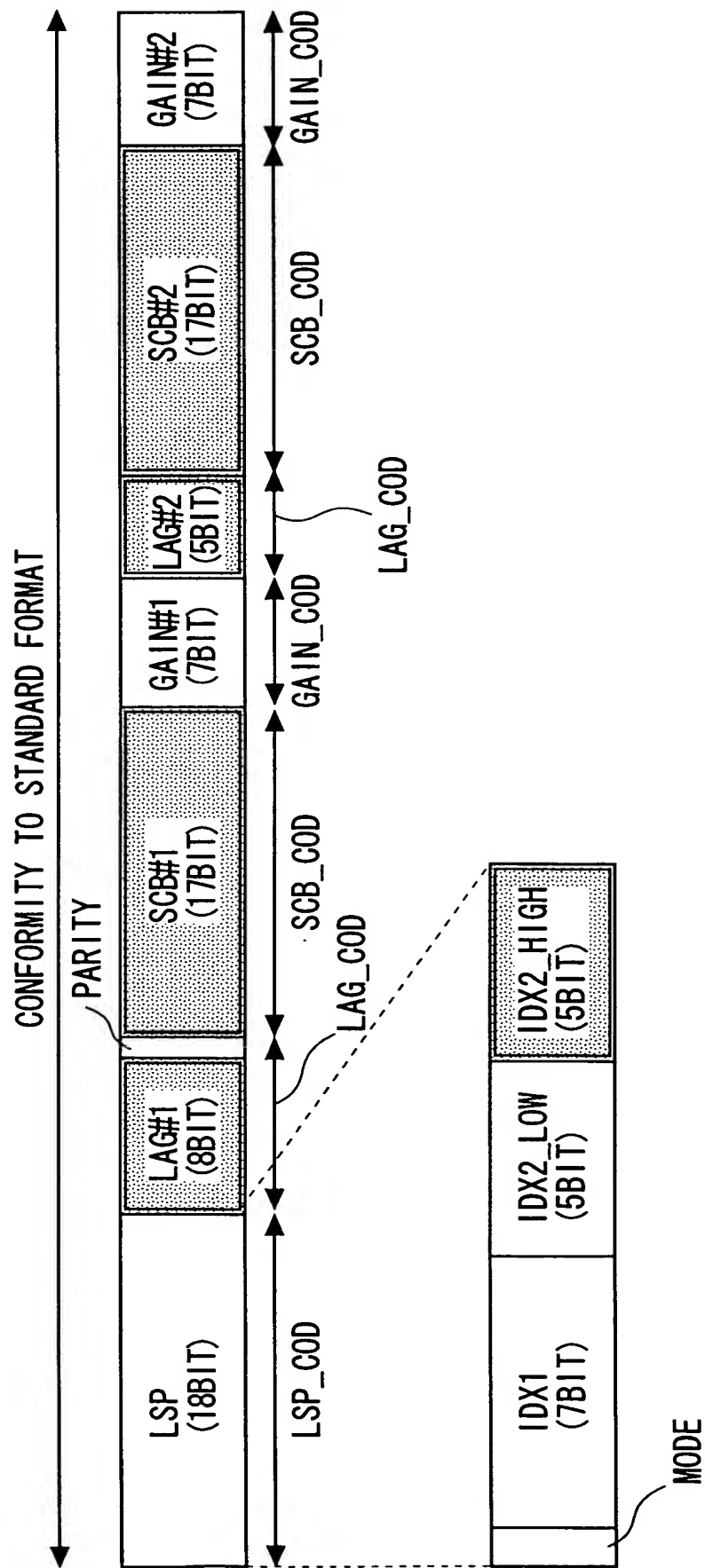


FIG. 17

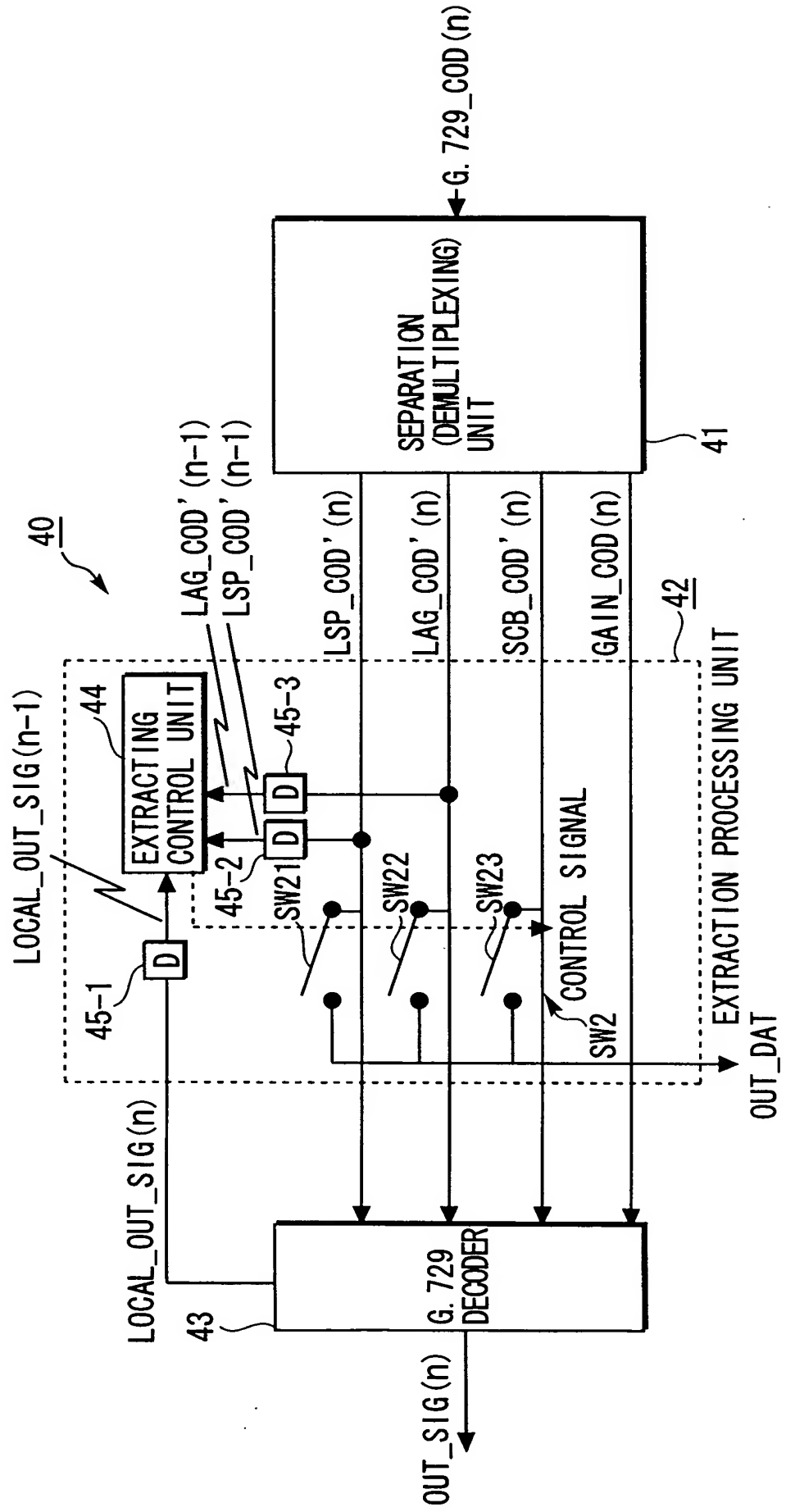
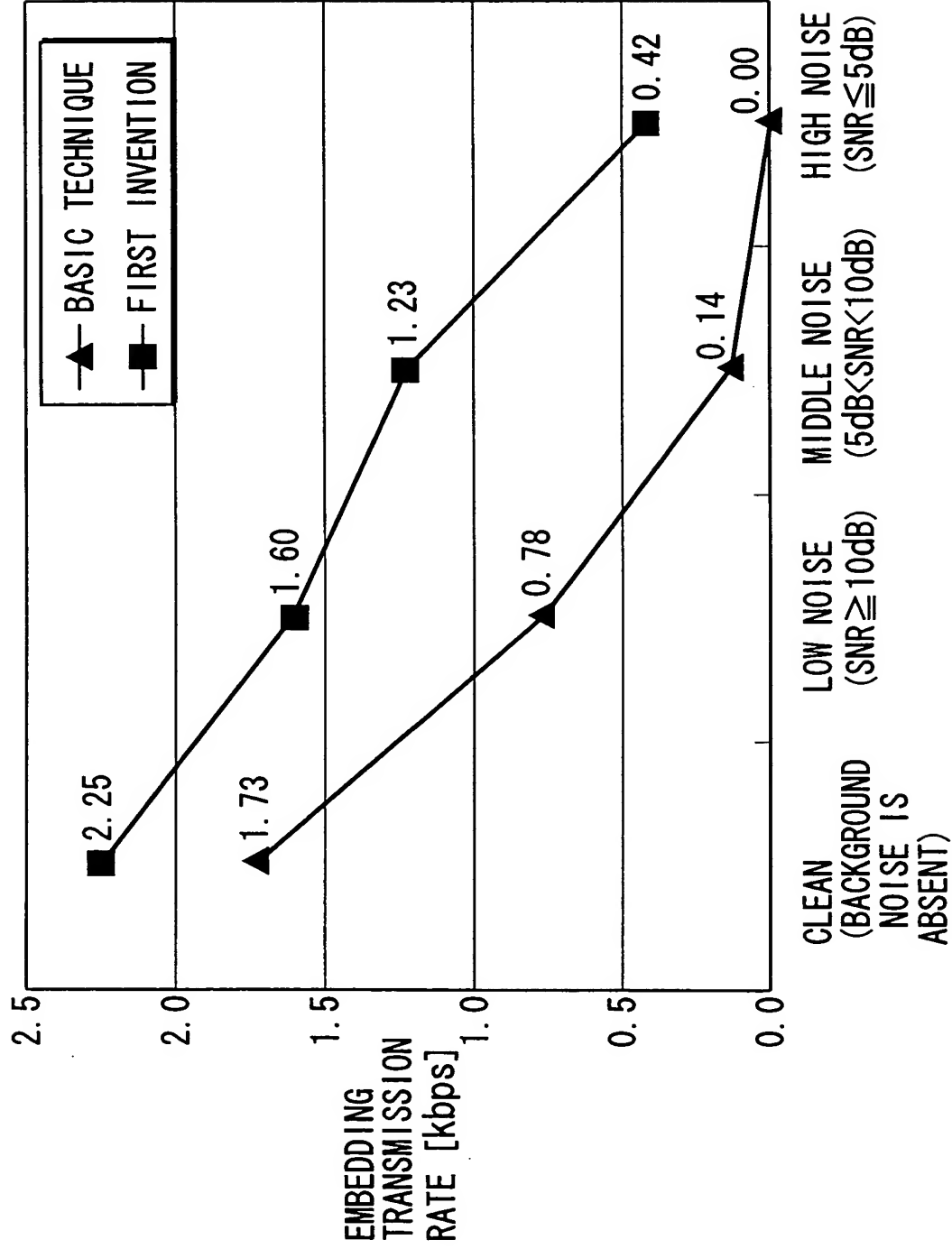


FIG. 18



VARIOUS LEVELS OF BACKGROUND NOISE

FIG. 19

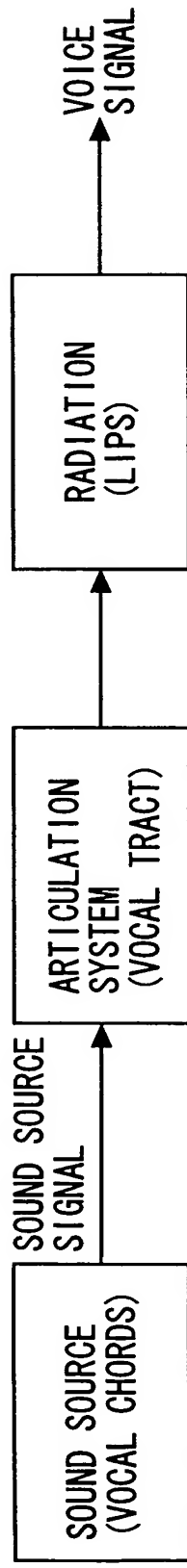


FIG. 20

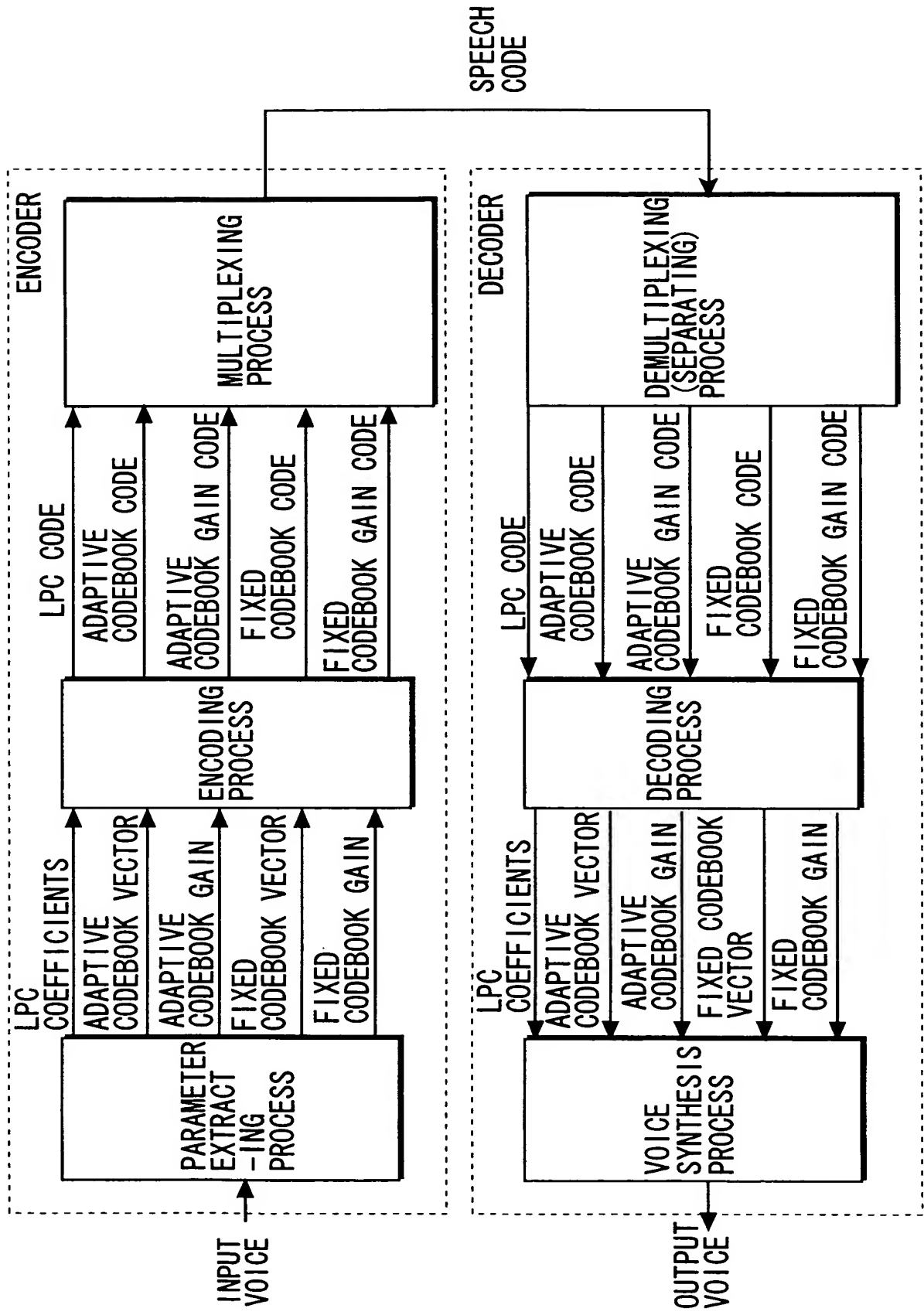


FIG. 21A

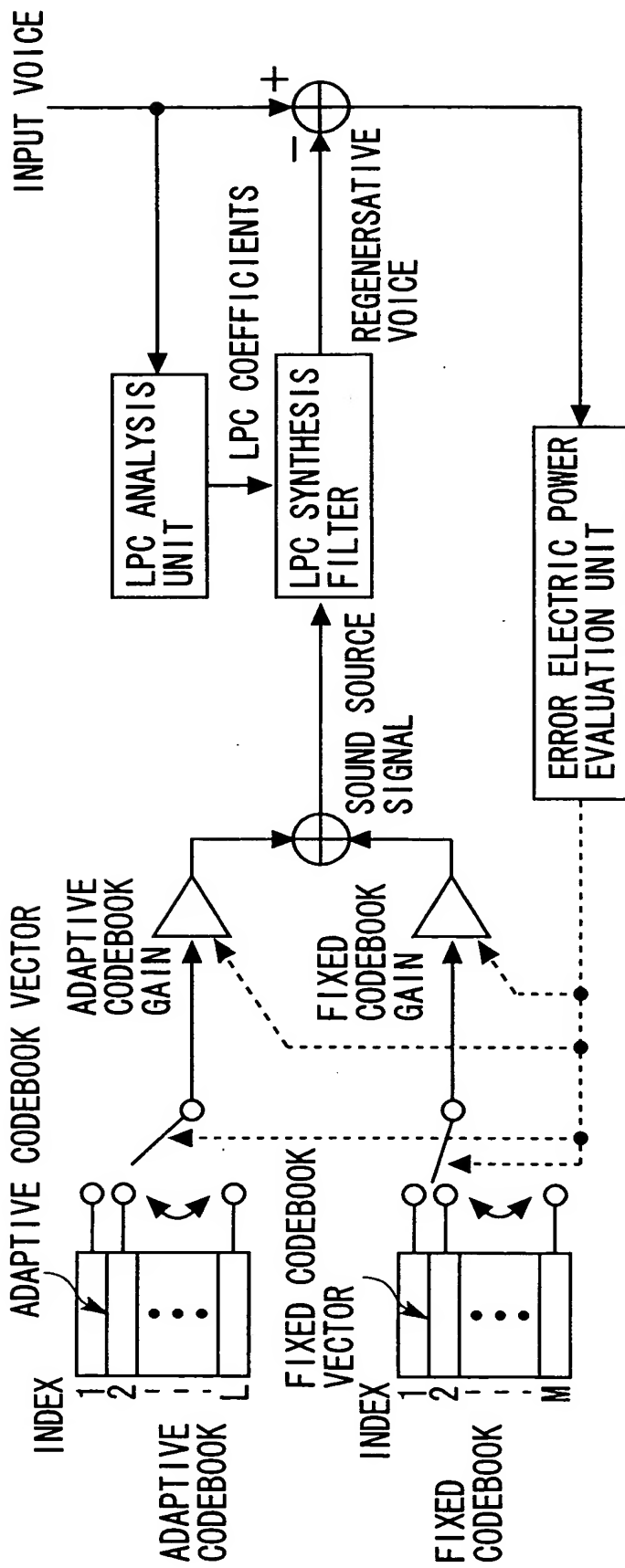


FIG. 21B

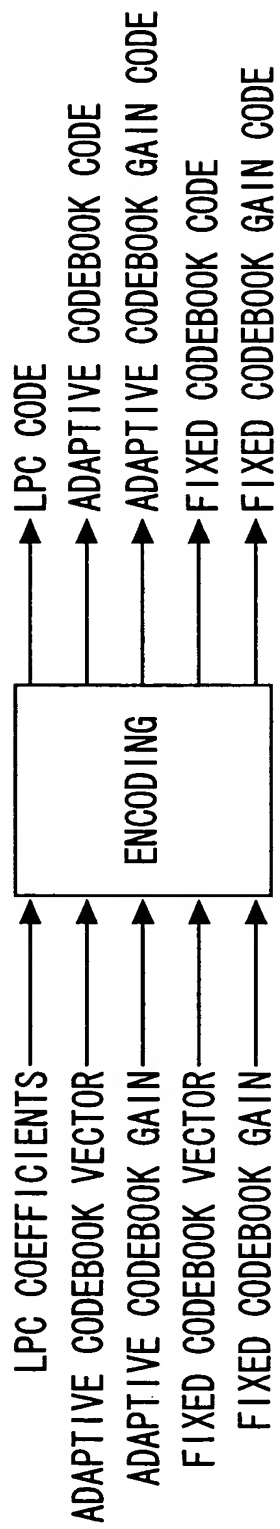


FIG. 22

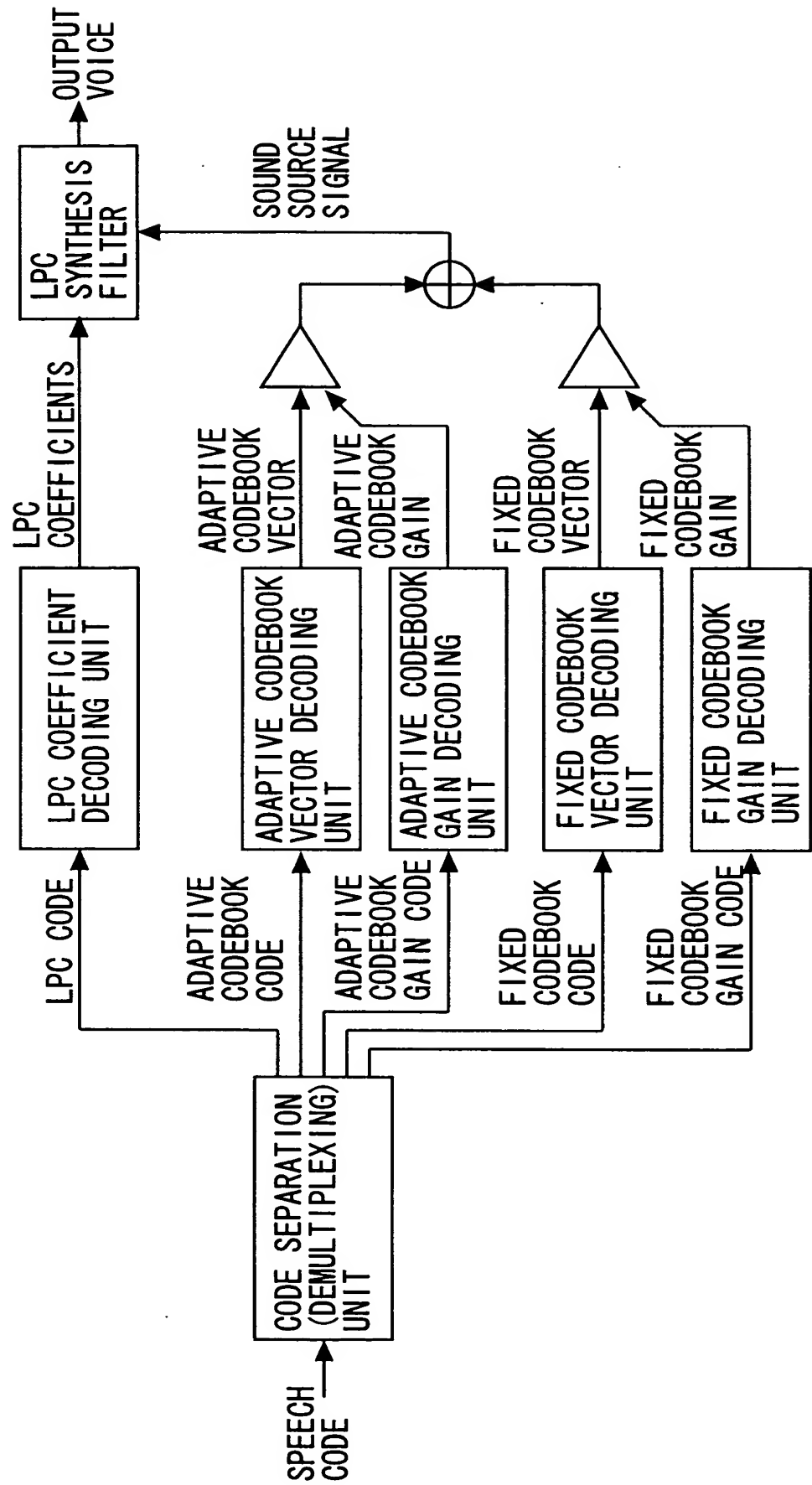


FIG. 23

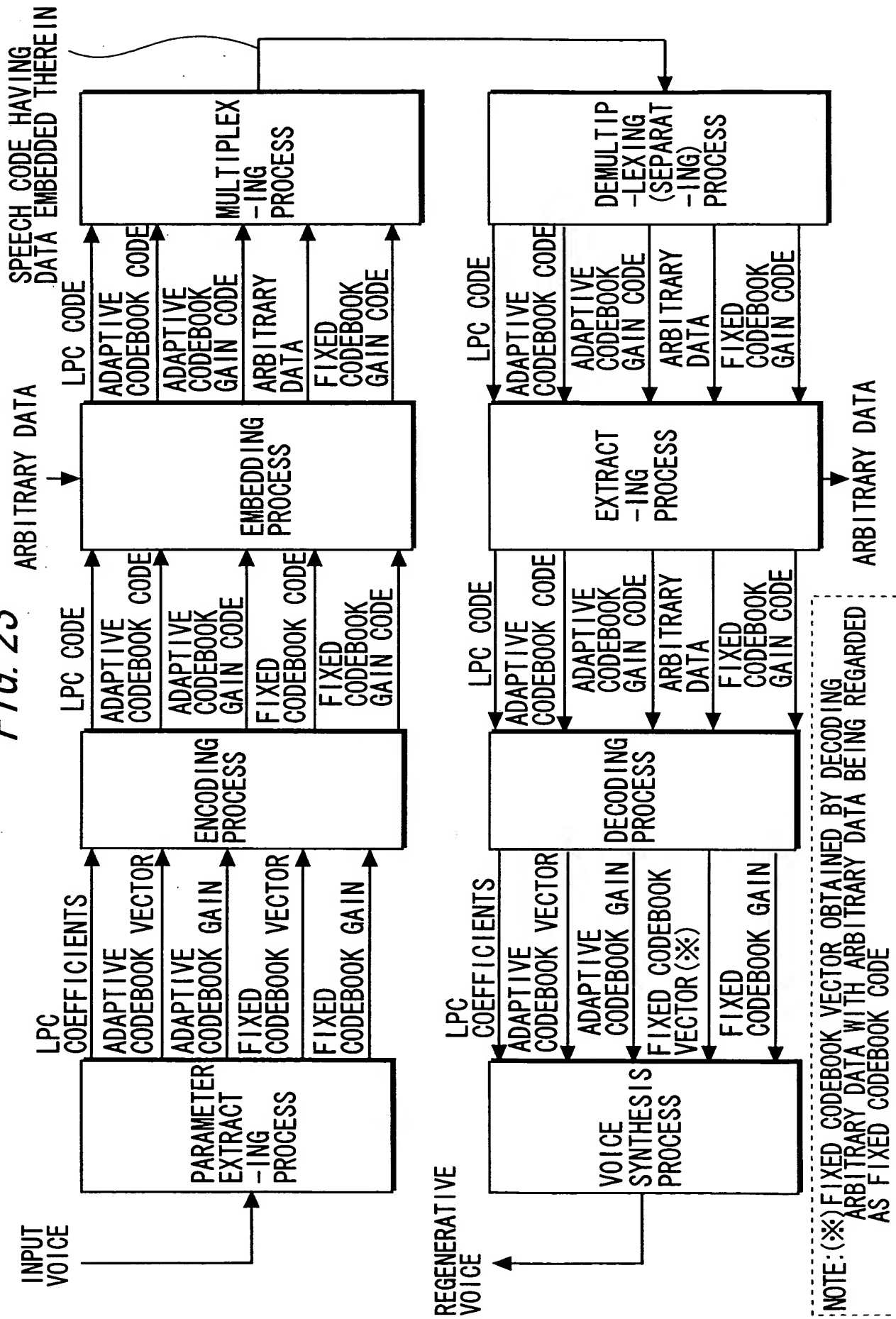


FIG. 24A

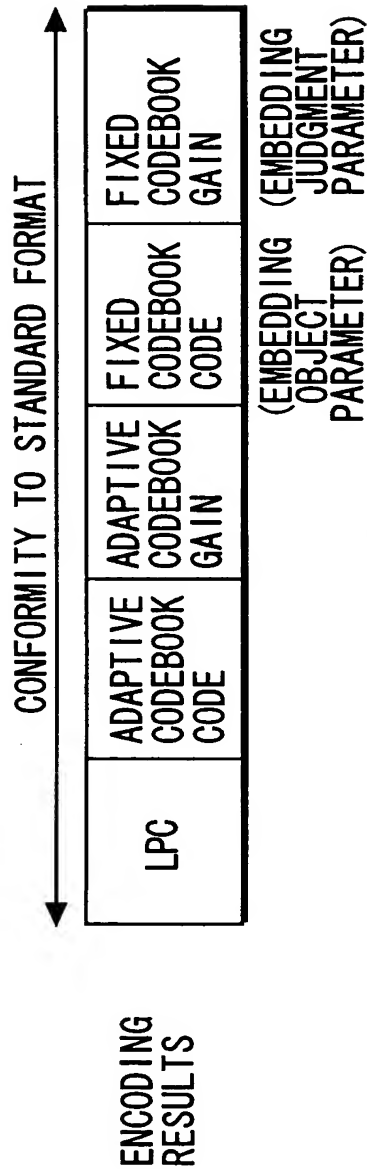


FIG. 24B

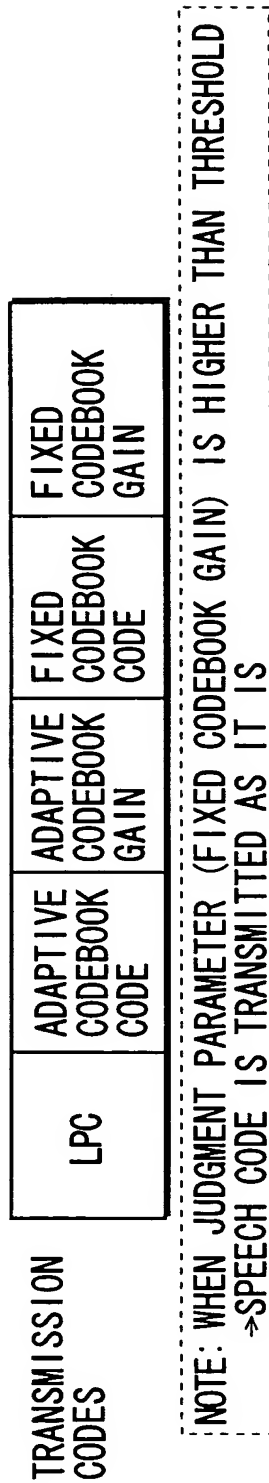


FIG. 24C

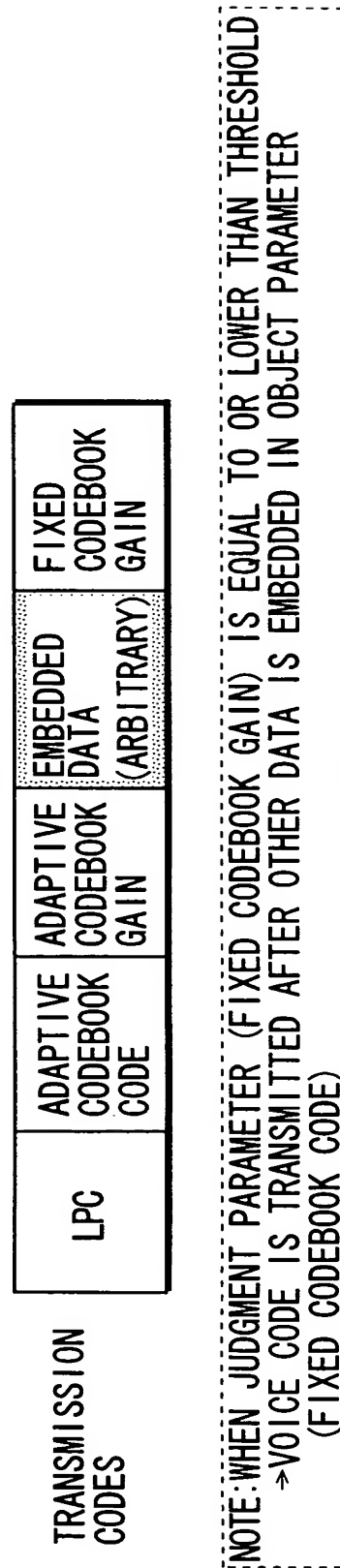


FIG. 25A

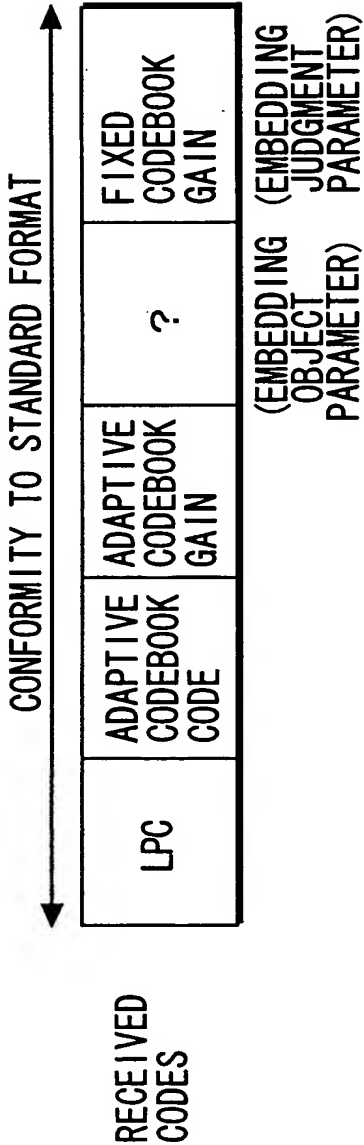


FIG. 25B

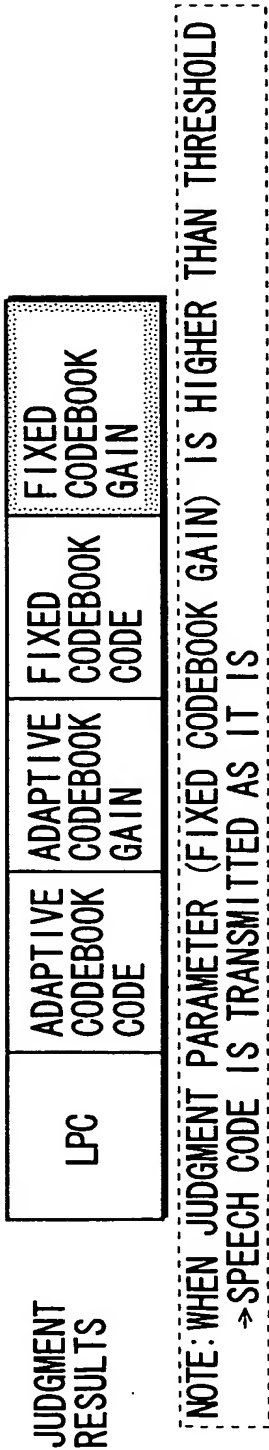


FIG. 25C

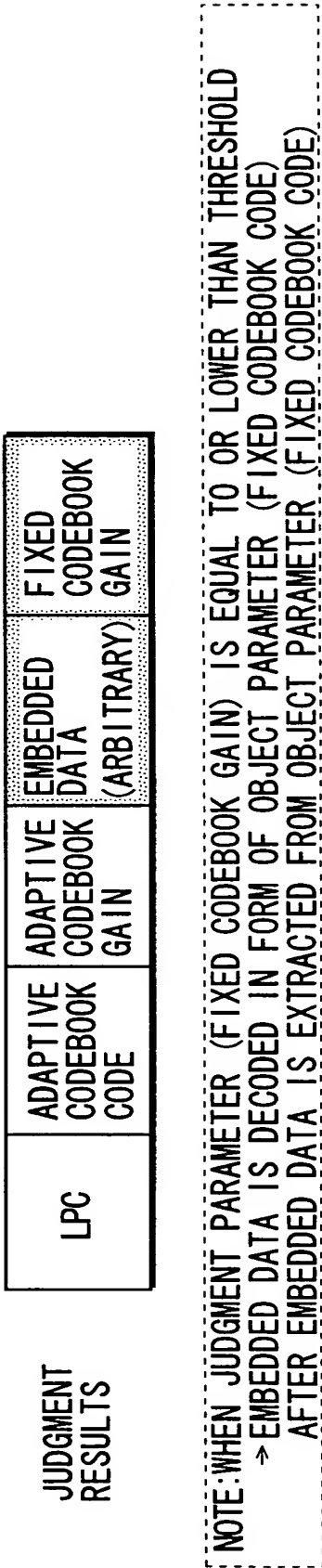


FIG. 26A

CONTINUOUS DISAPPEARANCE OF BLOCKS HAVING NUMBER SMALLER THAN 2^x BITS

00	01	10	11	00	01	10	11	00	01	10	11	00	01
----	----	----	----	----	----	----	----	----	----	----	----	----	----

DETECTION OF CONTINUOUS DISAPPEARANCE OF BLOCKS MAY BE POSSIBLE SINCE SEQUENCE NUMBERS ARE DISCONTINUOUS BEFORE AND AFTER DISAPPEARANCE OF BLOCKS

FIG. 26B

CONTINUOUS DISAPPEARANCE OF BLOCKS HAVING NUMBER EQUAL TO 2 BITS

00	01	10	11	00	01	10	11	00	01	10	11	00	01
----	----	----	----	----	----	----	----	----	----	----	----	----	----

DETECTION OF CONTINUOUS DISAPPEARANCE OF BLOCKS IS IMPOSSIBLE SINCE CONTINUITY OF SEQUENCE NUMBERS ARE HELD BEFORE AND AFTER DISAPPEARANCE OF BLOCKS

FIG. 26C

CONTINUOUS DISAPPEARANCE OF BLOCKS HAVING NUMBER EQUAL TO OR LARGER THAN $(2^x + 1)$ BITS

00	01	10	11	00	01	10	11	00	01	10	11	00	01
----	----	----	----	----	----	----	----	----	----	----	----	----	----

DETECTION OF CONTINUOUS DISAPPEARANCE OF BLOCKS IS POSSIBLE SINCE SEQUENCE NUMBERS ARE DISCONTINUOUS BEFORE AND AFTER DISAPPEARANCE OF BLOCKS HOWEVER, SINCE CONNECTION OF NUMBERS IS SAME AS THAT IN FIG. 26A \Rightarrow THERE IS POSSIBILITY THAT NUMBER OF DISAPPEARED BLOCKS IS COUNTED BY MISTAKE

FIG. 27

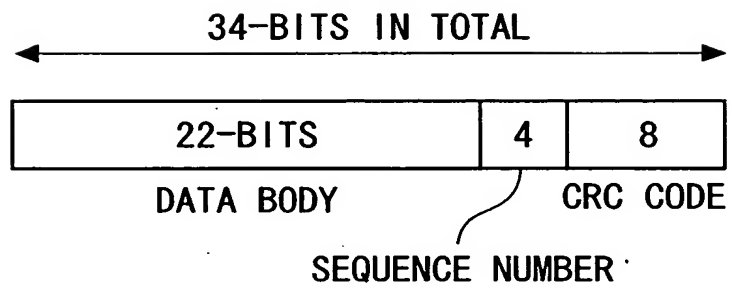


FIG. 28A

DATA TRANSMISSION SIDE (ENCODER SIDE)

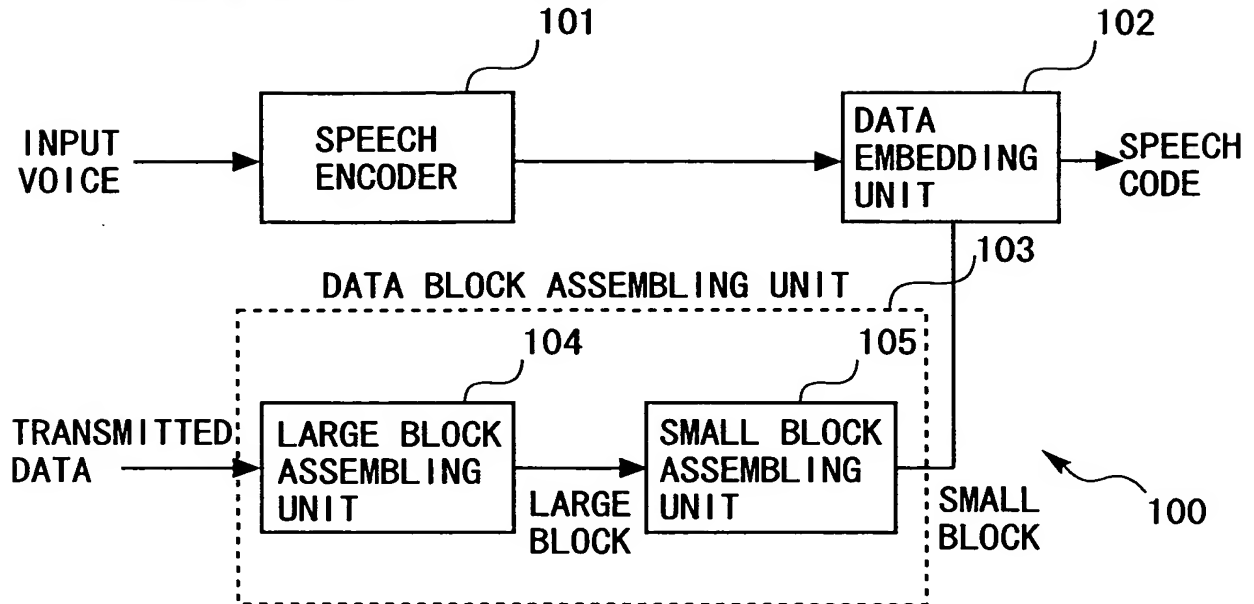


FIG. 28B

DATA RECEPTION SIDE (DECODER SIDE)

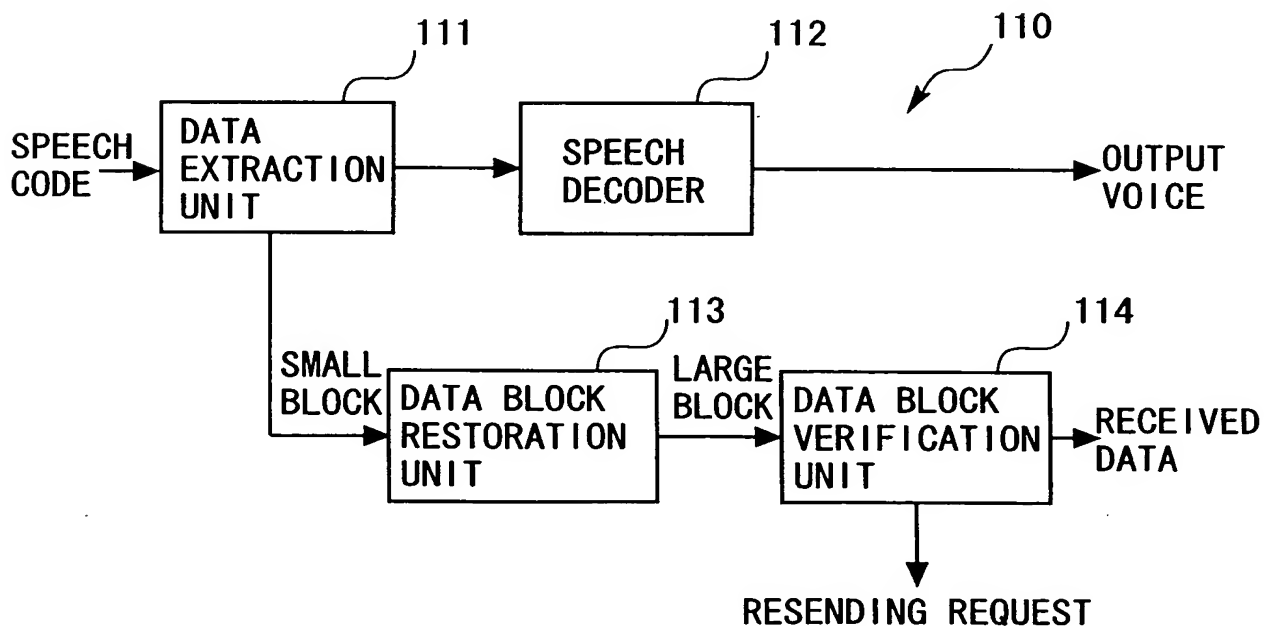


FIG. 29A

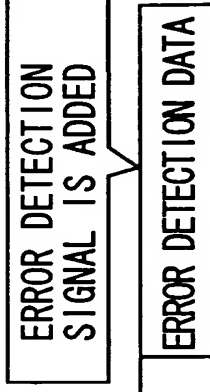


FIG. 29B

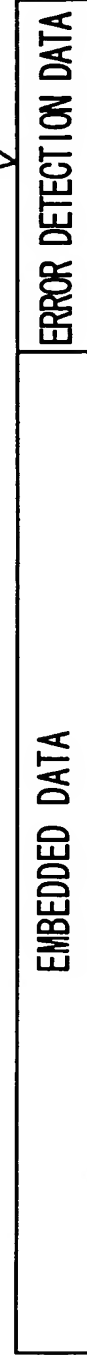


FIG. 29C

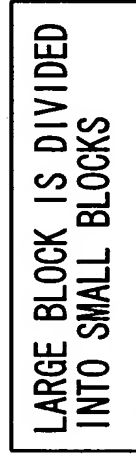


FIG. 29D



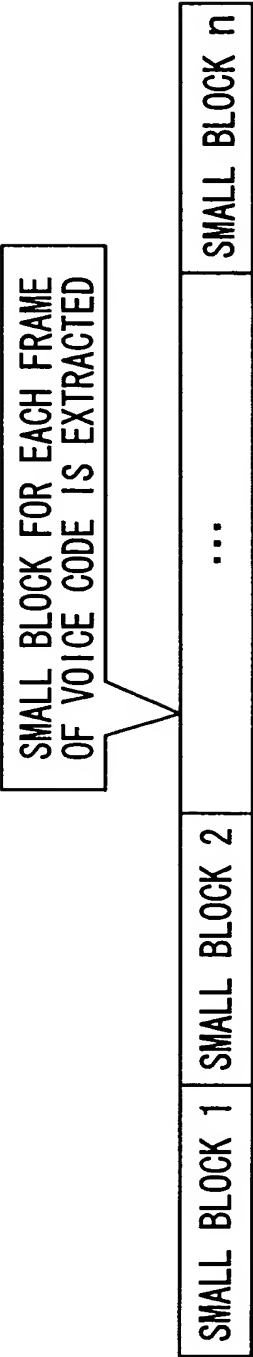


FIG. 30A

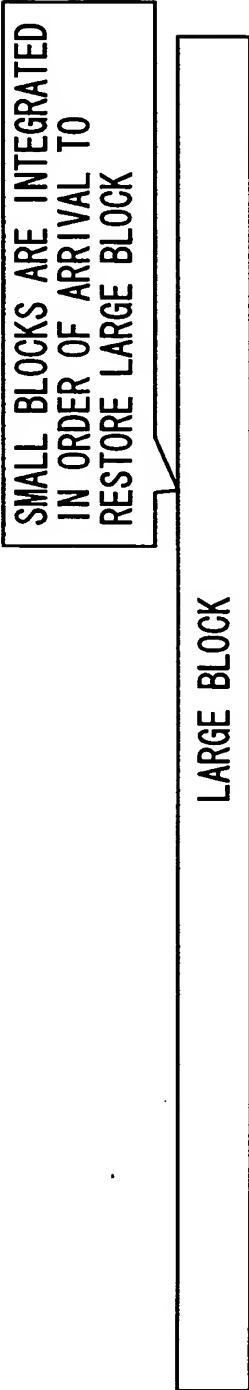


FIG. 30B

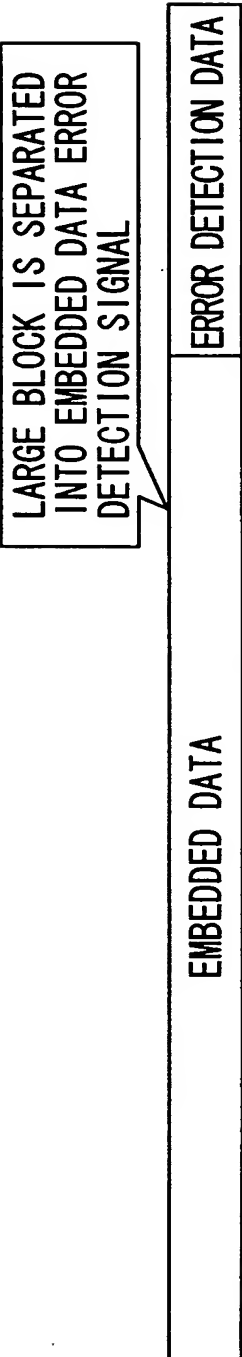


FIG. 30C

FIG. 31

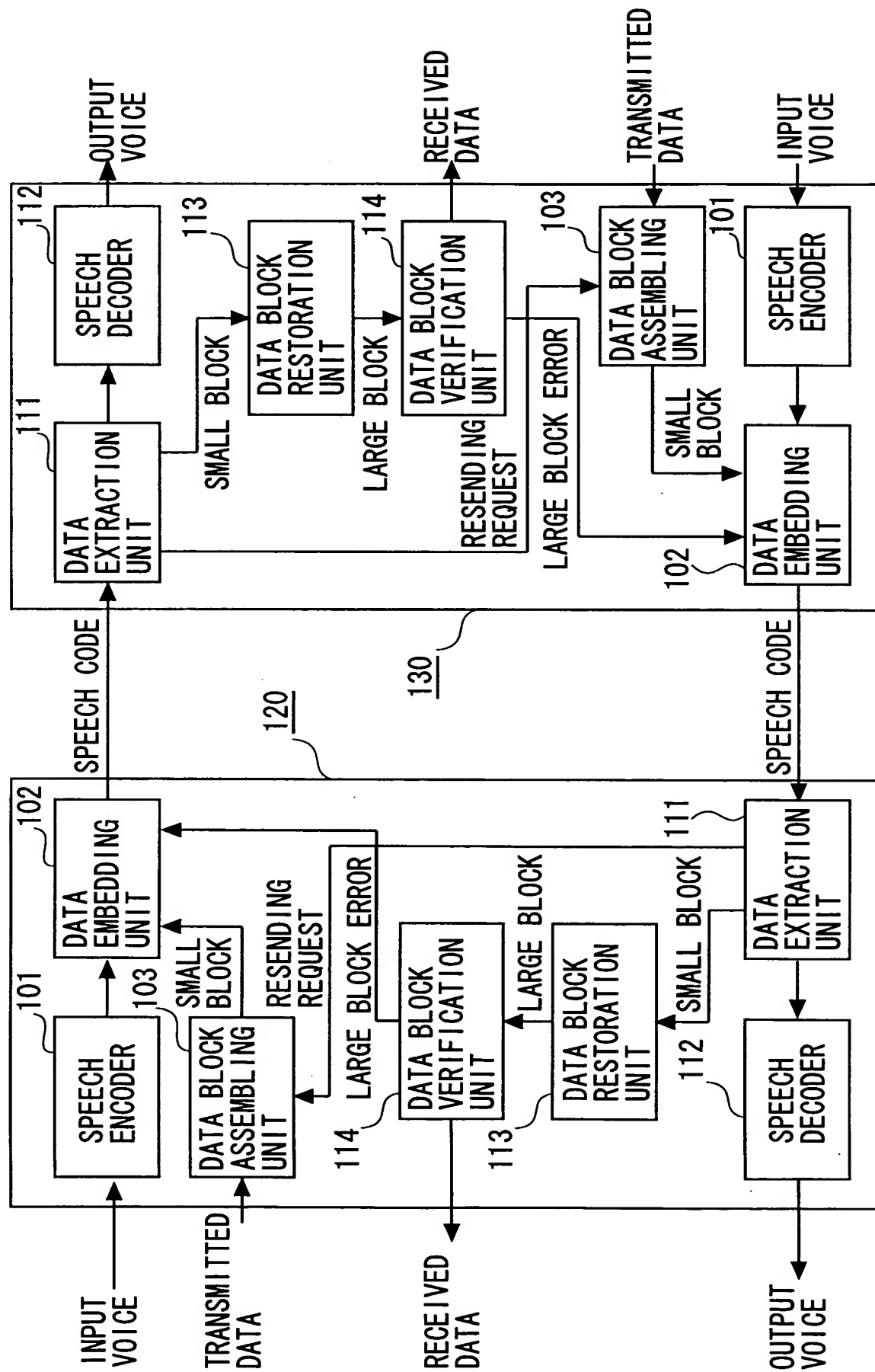
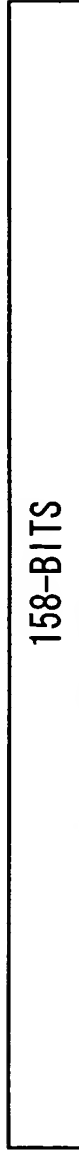


FIG. 32A



EMBEDDED DATA

SEQUENCE NUMBER AND
CRC CODE ARE ADDED

FIG. 32B

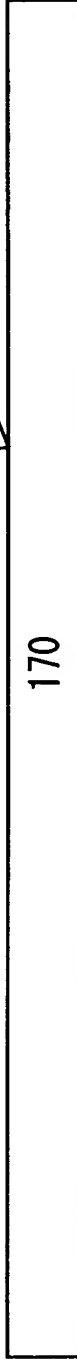


EMBEDDED DATA

SEQUENCE NUMBER CRC CODE

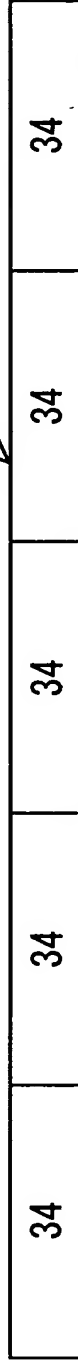
EMBEDDED DATA, SEQUENCE NUMBER,
AND CRC CODE ARE COLLECTED TO
STRUCTURE LARGE BLOCK

FIG. 32C



LARGE BLOCK

FIG. 32D



LARGE BLOCK IS DIVIDED
INTO SMALL BLOCKS

SMALL BLOCK 1 SMALL BLOCK 2 SMALL BLOCK 3 SMALL BLOCK 4 SMALL BLOCK 5

FIG. 33

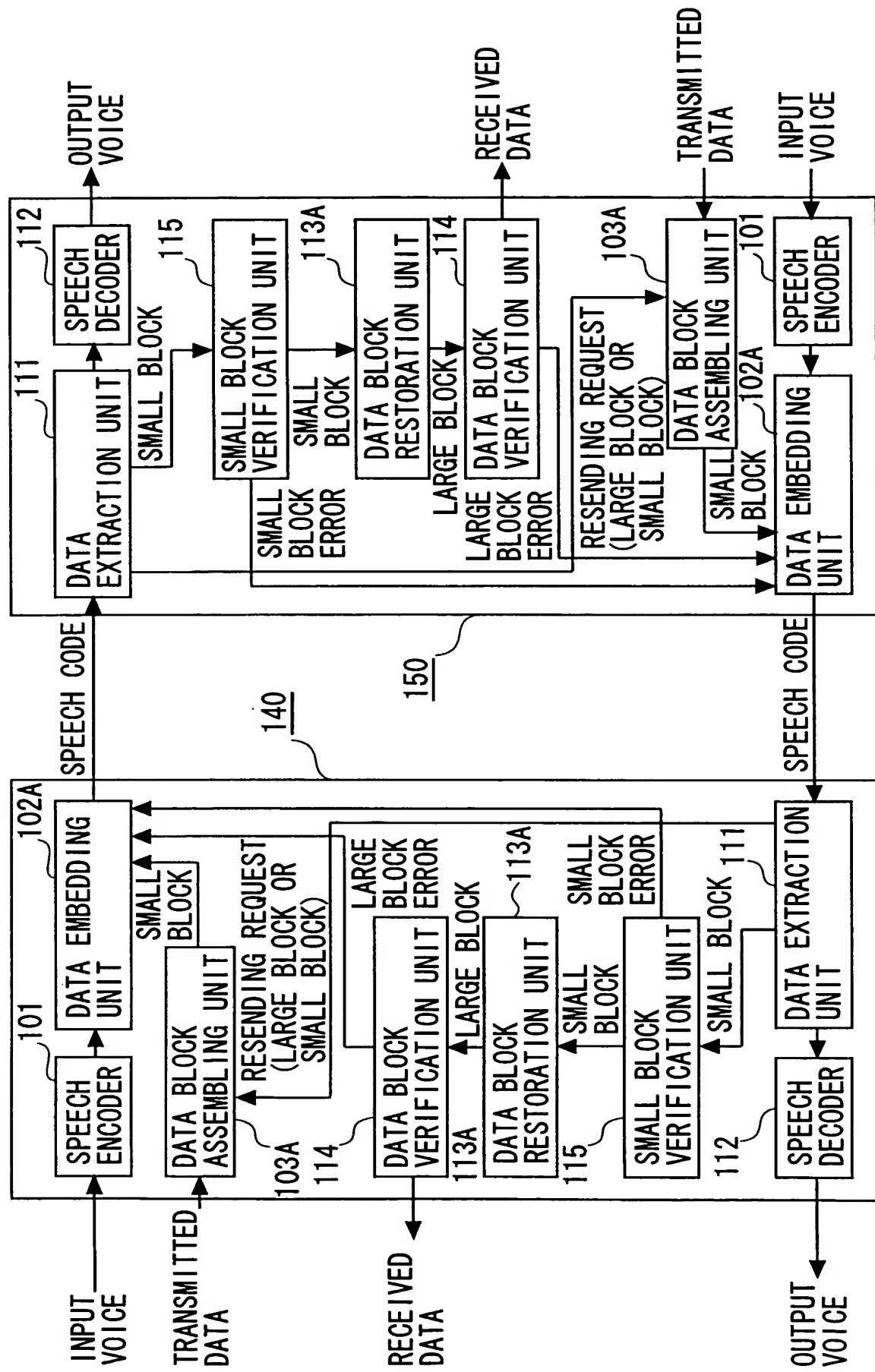


FIG. 34A

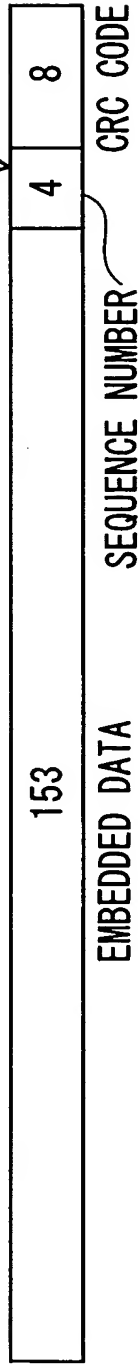


153-BITS

EMBEDDED DATA

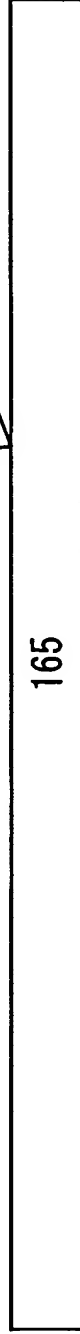
SEQUENCE NUMBER AND
CRC CODE ARE ADDED

FIG. 34B



EMBEDDED DATA, SEQUENCE NUMBER,
AND CRC CODE ARE COLLECTED TO
STRUCTURE LARGE BLOCK

FIG. 34C



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LARGE BLOCK IS DIVIDED
INTO SMALL BLOCKS

FIG. 34D

